



Section 1

Introduction

The State of the Lakes Ecosystem Conference, or SOLEC, has its roots in the Great Lakes Water Quality Agreement, and its overall purpose:

“... to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.”

The revisions to the Agreement in 1987 established what are now well known concepts and programs such as Beneficial Use Impairments, Remedial Action Plans for Areas of Concern, and Lakewide Management Plans.

Also in the Agreement, however, is the commitment by the two Parties for regular reporting on progress toward several of the general and specific objectives. The State of the Lakes Ecosystem Conferences were established by the governments of Canada and the United States in 1992 in response to those reporting requirements. The conferences were to provide independent, science-based reporting on the state of health of the Great Lakes basin ecosystem every two years.

Four objectives were established for the conferences:

- *To assess the state of the Great Lakes ecosystem based on accepted indicators.* SOLEC facilitates a rational, disciplined approach toward assessing the various components of the Great Lakes ecosystem and reporting the findings.
- *To strengthen decision-making and environmental management concerning the Great Lakes.* SOLEC specifically seeks to provide information and interpretations that are useful to those who make decisions or who influence environmental management practices, whether they are in

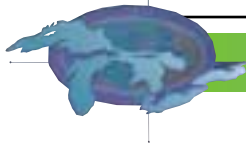
government, industry, environmental groups or private practice.

- *To inform local decision-makers of Great Lakes environmental issues.* This objective emphasizes the importance of participation by local government and organizations.
- *To provide a forum for communication and networking amongst all the Great Lakes stakeholders.* Great Lakes stakeholders include representatives from federal governments, state and provincial governments, local governments, First Nations and native American Tribes, non-government environmental organizations, industry, academia, and private citizens.

SOLEC has provided an opportunity to look at the “big picture”, by starting to integrate science issues. Air, land, water, biota, economics, and human health have been examined in a broad context, with linkages between and amongst these issues being drawn. SOLEC provides information on the state of the Lakes and the stresses on the Lakes to decision-makers in the basin. There is no other forum for this type of scientific debate.

The first SOLEC, 1994, provided a basic assessment of the state of the Great Lakes. This was an overview of the Great Lakes ecosystem, including human health and socio-economics. In 1996, SOLEC evaluated the nearshore environment and some land use issues, introducing the concept of Biodiversity Investment Areas. Both SOLECs assessed the health of the system using only ad hoc indicators and expert opinion.

In 1996, the Parties agreed that a basin-wide, systematic framework using science-based indicators was essential for reporting on ecosystem health. The Parties took this as a challenge for SOLEC 98.



At SOLEC 98, the Parties advanced the development of easily understood indicators which objectively represented the condition of the Great Lakes basin ecosystem, the stresses on the ecosystem, and the human responses to those stresses. These indicators would measure both the health of the system, and progress toward remedying existing problems. A suite of 80 ecosystem health indicators was presented for discussion, with the intention that this suite form the basis of reporting on the state of the Great Lakes. The complete suite and details on the process of indicator selection is in the *Selection of Indicators for Great Lakes Basin Ecosystem Health, Version 4*.

This present report on the State of the Great Lakes is the first report which applies the accepted suite of indicators, starting with 33 indicator assessments. The report is not comprehensive in terms of all 80 indicators. Some of these indicators will require agencies to collect additional data. Others need analysis and synthesis of data from non-traditional sources, such as municipalities, private sector and volunteer organizations. Some indicators need further development through research before they can be used for routine reporting.

This report also presents the condition of each of the Great Lakes and connecting channels as a whole. A general assessment has been made for Lakes Superior, Huron and Erie, and for the St. Clair - Detroit River corridor. The status of the fishery is presented for Lakes Michigan and Ontario, and the issue of biodiversity and non-native species are explored for the St. Lawrence River.

Another major thrust for SOLEC has been the development of the Biodiversity Investment Area (BIA) concept. This concept was first proposed in 1996 in the Nearshore Terrestrial paper for SOLEC 96, and subsequently included in the 1997 State of the Great Lakes report. In this present document, we provide a status report on the integration of nearshore terrestrial, coastal wetland and aquatic BIAs. The full text of the BIA report can be found on the SOLEC website.